Div 7

1959

SOV/115-59-6-7/33

28(2)

AUTHOR: Kostin, V.Ye.

TITLE: A Precision Measuring Microscope for Measuring Small Dimensions

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 6, pp 18-19 (USSR)

ABSTRACT: The article contains a brief description of a precision measuring microscope for non-contact measurements of small dimensions within the range of 0.01 to 2 mm. The measuring microscope, shown in diagram, was developed at the Byuro vzaimozamenyayemosti Komiteta standartov, mer i izmeritel'nykh proborov (Bureau of Interchangeability of the Committee of Standards, Measures and Measuring Instruments). The measuring microscope has a high resolving power. A modernized screw micrometer is mounted at the eyepiece of the microscope. The reading dial of the microscope is placed in the focal plane of the eyepiece and not in the plane of the stand as this is the case with conventional instrument microscopes. With such a design, the errors of pitch and play of the micrometer screw are reduced with increasing magnification, while the graduation value is reduced simultaneously. For example, at 200 x the graduation value of the dial is 0.0004 mm. For convenience of work,

Card 1/2

359/368

A Precision Measuring Microscope for Measuring Small Dimensions

the eyepiece is inclined at an angle of 60°. The microscope stand may be rotated by 360° degrees. A special, adjustable illumination system is built into the base of the microscope and facilitates measurements of small dimensions without the formation of diffraction rings. Dimensions are measured with this microscope by absolute and by comporative methods. In the first case, the measurement is performed by means of the micrometer screw of the microscope eyepiece, while in the second case a gage block is used for comparison. The gage block is installed between the supports. The precision measuring microscope is composed of standardized optical parts. There is 1 diagram.

SCIENTIFIC LIBRARY
NOV 14 1959
U. S. PATENT OFFICE